

## Monolithic, Widely Tunable, THz Local Oscillator, Phase I

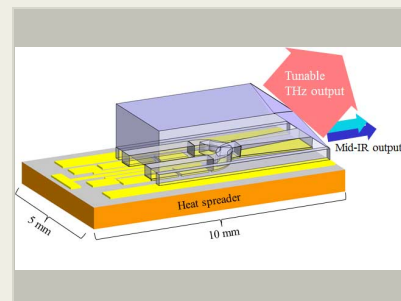
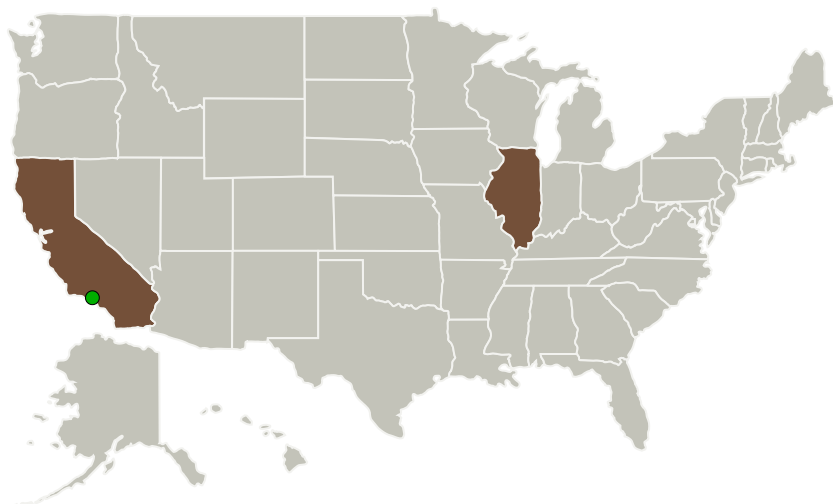
Completed Technology Project (2013 - 2013)



## Project Introduction

This proposal describes development of a new type of quantum-cascade laser for use as a local oscillator at frequencies above 2 THz. The THz source described is a single chip solution that operates at room temperature. In addition, a mechanism for wide tuning (2-4.7 THz) is described that requires no moving parts.

## Primary U.S. Work Locations and Key Partners



Monolithic, Widely Tunable, THz Local Oscillator Project Image

## Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Images	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

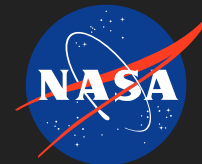
Organizations Performing Work	Role	Type	Location
MP Technologies, LLC	Lead Organization	Industry	Evanston, Illinois
● Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

## Primary U.S. Work Locations


California	Illinois
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## Project Transitions

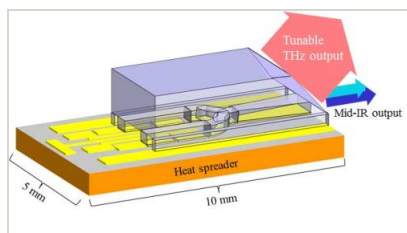
 **May 2013:** Project Start

 **November 2013:** Closed out

### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138326>)

## Images



### Project Image

Monolithic, Widely Tunable, THz Local Oscillator Project Image (<https://techport.nasa.gov/image/126521>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

MP Technologies, LLC

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

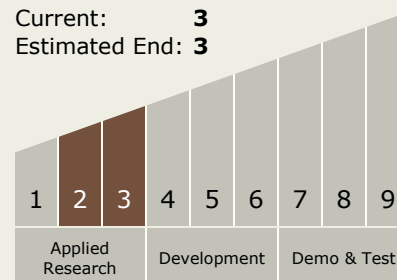
Carlos Torrez

### Principal Investigator:

Steven Slivken

## Technology Maturity (TRL)

Start: 2  
Current: 3  
Estimated End: 3



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## Technology Areas

### Primary:

- TX02 Flight Computing and Avionics
  - └ TX02.1 Avionics Component Technologies
    - └ TX02.1.5 High Performance Field Programmable Gate Arrays

## Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System